

With repeated usage, work surface 77 compresses, causing distance A between work surface 77 and roller press 16 to enlarge. Unless the distance is corrected, the effectiveness of gantry press 10 is adversely affected. Also, distance A must be changed accordingly when denser woods or materials other than the materials used in a preceding truss assembly are used for the truss chord and web members M.

To adjust the vertical position of roller press 16, right angle gearbox drive 134 is activated by turning crank 136. In response, shaft 102 rotates according to the direction of the crank, causing threads 124 of shaft 102 to engage the threaded member 126 to move along the length of second portion 116 of shaft 102. The movement of threaded portion 116 causes plate 40 to travel in a vertical direction, thereby vertically moving press roller 16 through the connection of sub shaft 52 with plate 40. With the rotation of each rod of each vertical assembly, plates 40 of dollies 12 and 14 and journaled stub shafts 52 and 54, respectively, of the roller press 16 are raised or lowered in each dolly 12 and 14 accordingly.

Concurrently, shaft 202 of second vertical adjustment assembly 200 is rotated via sprocket drive chain 142 engaging sprocket 238 mounted on shaft 202. The same apparatus is employed in second dolly 14 with respect to the third and the fourth vertical adjustment assemblies.

Rod 144, connected to second right angle gearbox drive 148, conveys the mechanical energy from gearbox drive 134 and crank 136 to second gearbox drive 148. As discussed above, the second gearbox drive similarly adjusts plate 40 of second dolly 14 concurrently with adjustment of plate 40 of first dolly 12. In this fashion, roller press 16 is vertically adjusted in a substantially parallel fashion, with the need of tediously adjusting individual bolts and nuts as shown in prior devices.

The description and figures of the specific example above does not point out what an infringement of this invention would be, but are to provide at least one explanation of how to make and use the invention. Numerous modifications and variations of the preferred embodiments can be made without departing from the scope and spirit of the invention. Thus, the limits of the invention and the bounds of the patent protection are measured by and defined in the following claims.

Having described the invention, what is claimed is:

1. A gantry press adjustment apparatus for adjusting a vertical spacing and parallel orientation of a gantry press with respect to a work surface, the gantry press having a rigid frame with a first side frame portion and a second side frame portion, each of the first and the second side frame portions having first and second generally parallel vertical members, a bottom brace and a top brace, the first and the second side frame portions spaced sufficiently apart to accept a roller press with a first shaft end and a second shaft end, the apparatus comprising:
 - a first planar member being adapted to receive and support the first shaft end of the roller press, said first planar member slidably mounted on the first side frame portion about the first and the second generally parallel vertical members;
 - a first vertical adjustment member connected to the first side frame portion and to said first planar member;
 - a second vertical adjustment member connected to the first side frame portion and to said first planar member, said first vertical adjustment member and said second vertical adjustment member mechanically interconnected such that said second vertical adjustment mem-

a second planar member being adapted to receive and support the second shaft end of the roller press, said second planar member slidably mounted on the second side frame portion about the first and the second generally parallel vertical members;

a fourth vertical adjustment member connected to the second side frame portion and to said second planar member, said fourth vertical adjustment member and said third vertical adjustment member mechanically interconnected such that said fourth vertical adjustment member adjusts at a substantially equivalent rate and vertical spatial orientation to that of said third vertical adjustment member; and

2. A gantry press adjustment apparatus as defined in claim 1 wherein each said vertical adjustment member comprises:

a threaded member adapted to threadingly receive the second portion of said rod, said threaded member having mounting means to attach said threaded member to one of said planar members; and

the first portion of said rod extending through an aperture defined in the top brace of the side frame portion, the aperture being adapted to rotatably receive the first portion of said rod, said thrust bearing having an outer circumference larger than the aperture.

a first gearbox drive having an input shaft, a first output shaft and a second output shaft;

a rod having a first end mechanically connected to the first output shaft of said first gearbox drive and a second end mechanically connected to the input shaft of said second gearbox drive; and

a motor means secured to the input shaft of said first gearbox drive for actuating the first and the second output shafts of each said gearbox drive.

5 3 5. A gantry press adjustment apparatus as defined in claim 3 wherein each of said first and said second gearbox drives comprise a right angle gearbox drive.

a first planar member being adapted to receive and support the first shaft end of the roller press, said first planar member sidably mounted on the first side frame portion about the first and the second generally parallel vertical members;

25 a second planar member being adapted to receive and support the second shaft end of the roller press, said second planar member slidably mounted on the second side frame portion about the first and the second generally parallel vertical members;

a drive interconnected with each of said first, second, third, and fourth vertical adjustment members to adjust each at a substantially equivalent rate and vertical spatial orientation such that a simultaneous four-point adjustment of said first planar member and said second planar member maintains the roller press of the gantry press in a parallel orientation with respect to the work surface.

a rod having a shoulder surface between a first portion and a second portion of said rod, the second portion having a threaded surface and a diameter larger than the first portion of said rod;

a thrust bearing about said first portion of said rod supported by the shoulder surface.

the first portion of said rod extending through an aperture defined in the top brace of the side frame portion, the 55 aperture being adapted to rotatably receive the first portion of said rod, said thrust bearing having an outer circumference larger than the aperture.

1 8 . A truss assembly apparatus for use in connection with assembling a truss, the truss having a
2 plurality of truss members and a plurality of connector plates, said apparatus comprising:
3 a truss table comprising at least two guide tracks coupled to said truss table and a worksurface on
4 which the truss may be positioned;
5 a roller assembly movably coupled to said guide tracks, said roller assembly configured to press
6 the connector plates into the truss members, said roller assembly comprising a plurality of drive
7 wheels for moving said roller assembly relative to the truss table worksurface; and
8 adjustment apparatus supporting said roller assembly at variable spacial relationships to the work
9 surface while maintaining the roller assembly parallel to the work surface.

1 9 . A truss assembly apparatus in accordance with claim 8 wherein said roller assembly comprises
2 two drive wheels.

1 10 . A truss assembly apparatus in accordance with claim 8 wherein said roller assembly further
2 comprises a roller and a motor, said roller configured to press the connector plates in the truss
3 members, said motor configured to be rotatably coupled to said roller and said drive wheels.

1 11 . A truss assembly apparatus in accordance with claim 8 wherein said roller and said drive
2 wheels rotate at a same speed.

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1 ✓ 12 . A roller apparatus for use in connection with assembling a truss on a truss assembly
2 apparatus, the truss having a plurality of truss members and a plurality of connector plates, the
3 truss table having at least two guides and a worksurface, said roller apparatus comprising:
4 a frame;
5 a roller coupled to said frame configured to press the connector plates into the truss members;
6 adjustment apparatus supporting said roller at variable spacial relationships to the work surface
7 while maintaining the roller parallel to the work surface; and
8 a plurality of drive wheels coupled to said frame configured to movably couple to the truss table
9 guides

1 13 . A roller apparatus in accordance with claim 12 wherein said roller and said drive wheels
2 rotate at a same speed.

1 14 . A roller apparatus in accordance with claim 12 wherein said roller assembly comprises two
2 drive wheels.

1 15 . A roller apparatus in accordance with claim 12 wherein the roller assembly further comprises
2 a motor configured to be rotably coupled to said roller and said drive wheels.

